Chapter One

Introduction - Status of the Gulf of Mexico and Southern Atlantic States Shrimp Fisheries

The shrimp harvesting industry in the United States is presently facing a financial crisis. Although shrimp landings have remained fairly constant, averaging 267 million pounds since 1980, prices have declined primarily due to a growth in imports. Ex-vessel prices[1] fell from $2.85 to $2.17 in the southern Atlantic and from $2.26 to $1.64 in the Gulf of Mexico states between 1997 and 2002. Gross revenue, as a result, declined significantly from $654 million to $381 million in the Gulf of Mexico and from $80 million to $54 million in the southern Atlantic states between 2000 and 2002. The impact of the decline in shrimp prices on gross revenue in the Gulf of Mexico would have been much greater if 2002 had not been an average year for landings.

Analyses of shrimp demand indicate that imports have adversely impacted shrimp prices. First, domestic prices decline by about 55 cents for every one dollar decline in import prices.[2] As can be seen in Table 1-1, import prices have generally fallen since 1997, resulting in a corresponding decline in both ex-vessel prices and wholesale prices. Second, as shown in Figure 1-1, from 1980 to 2001 imports of shrimp increased from under 300 million pounds to over 1.2 billion pounds (heads-off weight) while exports have remained relatively constant since 1991. This approximately 300% increase in imports resulted in a significant decline in the ex-vessel price for domestically harvested shrimp. According to Keithly, et al., (1993), the ex-vessel price should decline 84 cents per pound for every hundred million pounds of shrimp imported into the U.S. Although this 300% recent increase is beyond the range of data used in the Keithly market analysis, the increase in imports in Figure 1-1 would result in a substantial decline in the ex-vessel price and should be the primary cause for the long-run decline in reported prices.

Table 1-1. Constant Dollar Wholesale, Ex-vessel, and Import Prices, 1997-2001[a]

Year	Wholesale Price	Ex-vessel Price	Import Price
1997	5.48	2.13	5.20
1998	5.02	2.03	5.03
1999	5.07	2.05	4.72
2000	5.13	2.14	5.25
2001	4.74	1.73	4.25

[1]Ex-vessel prices have been made comparable over time by converting them to constant 2001 dollars to eliminate the effect of inflation.

[2]Preliminary Inverse Demand Model for Shrimp:

Real Price (2003=100) = 0.53397 -0.0000000035284*Landings + 0.55125 * Real Import Price
(1.9947) (2.695) (5.403)

where values in parentheses are the t-statistics.

This price decline and the increase in diesel fuel prices that began in October, 2002 (Vondruska, 2003) reduced earnings for shrimp harvesting operators by reducing revenues and increasing operating costs. Shrimp trawling operations are particularly susceptible to increases in fuel cost, which represents a relatively large portion of their operating costs. Ward, Ozuna, and Griffin (1995) estimated that fuel costs represent approximately 25% of commercial fishermen's total cost of harvesting shrimp. This fuel price increase in operating costs and ex-vessel price decline in total revenues from fishing significantly increase the probability that shrimpers will exit the fishery (Ward and Sutinen, 1994). Given the magnitude of the changes in ex-vessel price and fuel costs reported for the Gulf of Mexico shrimp fishery, this economic incentive for shrimpers to leave the fishery is significant as is the financial cost to those forced to leave the fishery.

However, ex-vessel price declines had some positive impacts. First, per capita consumption of shrimp (Figure 1-1) rose from under one and a half pounds in 1980 to nearly three and a half pounds by 2001, while the market share for domestic harvesters declined from approximately 40% to 10% (Figure 1-2). As a result, shrimp is now the primary seafood product consumed by the U.S. public. Coupled with a growth in national population over the same time period, this increase in per capita consumption fueled the record consumption of shrimp by final consumers. As can be seen in Figure 1-1, the rate of increase in both per capita consumption and shrimp imports increased after 1996 as prices declined.

Second, overcapacity is a severe problem in federally managed fisheries. The decline in fleet size that can be expected with a fall in ex-vessel prices as imports and fuel costs increase can be expected to reduce both excess and overcapacity in the regulated open access shrimp fishery. Kirkley, et al. (2002) found that to purchase 875 vessels to eliminate overcapacity in the shrimp fishery will require $329.9 million of the estimated $1 billion vessel buyback program needed to eliminate overcapacity in five major fisheries.[3] While the decline in total revenue and the increase in operating costs will reduce overcapacity, it will squarely place the financial burden of this capacity reduction program on those who are forced to exit the shrimp fishery.

Third, lower prices resulting from a high level of imports have led to an expansion in consumption by U.S. consumers (Figure 1-1). Shrimp consumption per capita, which is approaching 3.5 pounds, is now at its highest level, even greater than the per capita consumption of tuna in the U.S. To capitalize on this increased demand for shrimp, processors may wish to maintain a steady and consistently high-volume, import-augmented throughput to keep average costs down. Similarly, consumers would likely favor any situation that would produce high volumes of low-priced shrimp, as long as product quality is not compromised. Murray (2003) suggests that the economic impact from imported shrimp approaches $9 billion in economic output and contributes 138,000 jobs to the national economy.

[3]The other four fisheries analyzed included the New England and West Coast groundfish fishery and the East Coast swordfish and shark fisheries.

These trends in ex-vessel price, operating costs, imports, and the costs of reducing overcapacity in the shrimp fishery indicate that fishermen are facing a severe financial crisis. Steps need to be taken to reduce the financial impacts of these trends on the industry. Without some form of financial relief, the shrimp fishery could suffer a catastrophic collapse which would severely impact the economies of the Gulf of Mexico and southern Atlantic states; e.g., 73,000 jobs generating approximately $1 billion in income and $1.4 billion in added value for the U.S. economy (Centaur Associates, 1984).

This report provides a summary of market conditions in the shrimp fishery in the Gulf of Mexico and southern Atlantic states that led up to this situation in the fishery and proposes industry initiatives that could be adopted to relieve associated financial stress. In the next section, a general summary of market conditions will be presented showing the trends in revenues, ex-vessel prices, and operating costs that affected the shrimp harvesting sector. This is followed by a more detailed description of the implications of the increase in the volume of shrimp traded internationally, including its impact on U.S. wild shrimp prices for the 1980-2001 period. Then, attention is given to the international shrimp market with emphasis placed on its impact for the U.S. market. Finally, the competition between U.S. imports – particularly farmed product – and domestic wild prices is considered.

After this statement of the problem, possible management approaches that will alleviate the financial stress in the shrimp harvesting and processing industry will be discussed. Shrimp marketing will be the first approach discussed, including generic promotion, direct marketing of a specialty domestic shrimp product, ecolabeling, and shrimp quality. Second, an evaluation of proposed solutions offered by industry, academics, and other experts in the shrimp fishery of the Gulf of Mexico and southern Atlantic states will be provided where data are available. Those management options that offer the best prospect for improving the financial performance of the industry and developing an economically sustainable fishery in the future are presented. Economic impacts are also calculated to demonstrate how the Gulf of Mexico and South Atlantic regions will benefit from the adoption of these management options.

U.S. SHRIMP SUPPLY

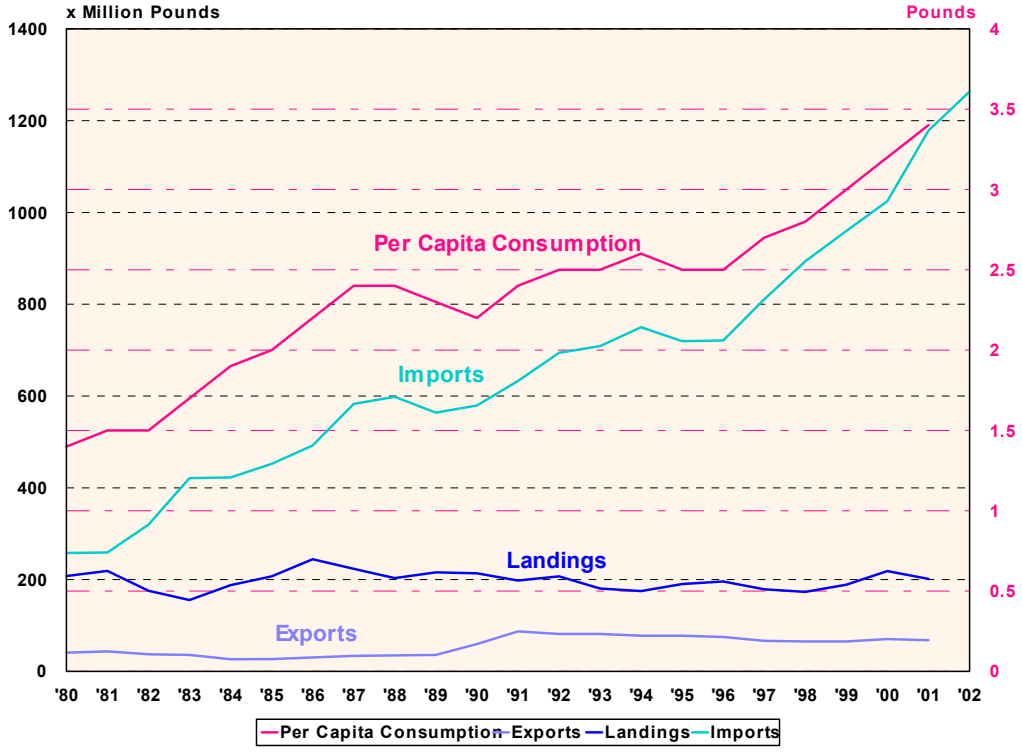

Figure 1-1.

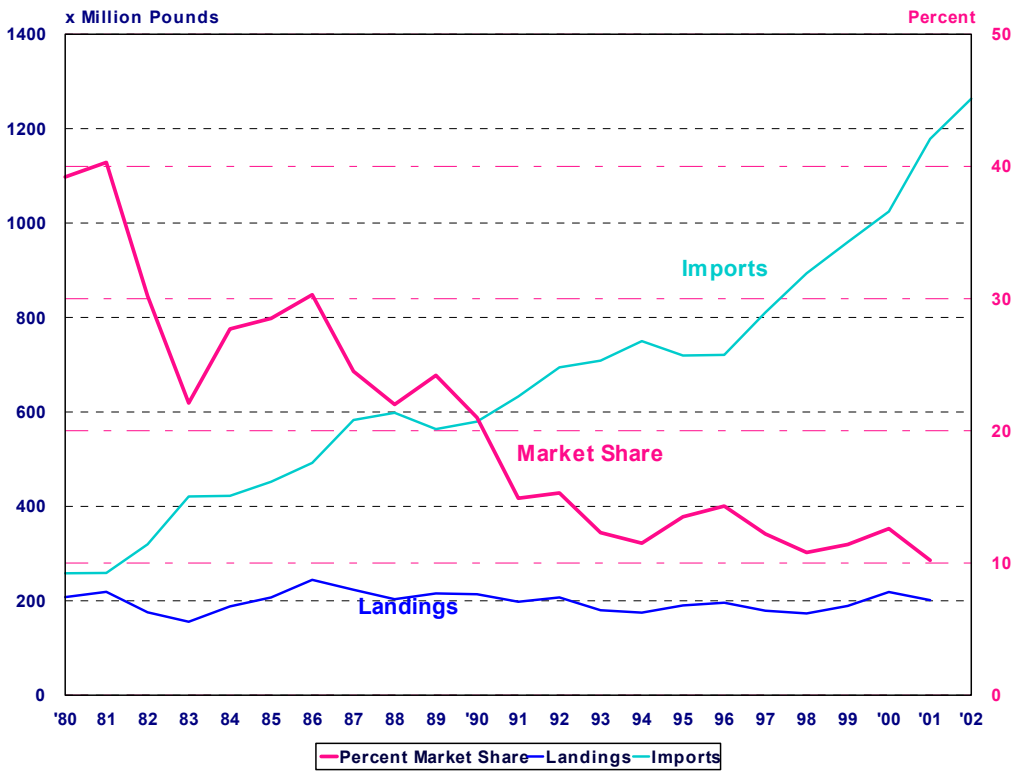
US SHRIMP LANDINGS, IMPORTS, & MARKET SHARE
x Million Pounds
Percent
1400
1200
1000
800
600
400
200
0
50
40
30
20
10
0
Imports
Market Share
Landings
'80 81 82 83 84 85 86 87 88 89 '90 91 92 93 94 95 96 97 98 99 '00 '01 '02
Percent Market Share
Landings
Imports

Figure 1-2.